

IOWA DEPARTMENT OF ADMINISTRATIVE SERVICES ▼

HUMAN RESOURCES ENTERPRISE

ENGINEERING TECHNICIAN SENIOR

DEFINITION

Provides paraprofessional engineering support to maintenance engineering and operations, project development and construction, and planning staff. Monitors project progress in order to ensure compliance with federal and state guidelines by reviewing and approving project documentation, and conducting a final official examination of accounts; performs related work as required.

The Work Examples and Competencies listed are for illustrative purposes only and not intended to be the primary basis for position classification decisions.

WORK EXAMPLES

Provides contract administration for federal, primary, secondary and institutional road construction projects; includes reviewing the contract for content and accuracy, documenting modifications, conducting final a review of the project records and maintaining a log and file of active projects.

Answers project related questions from contractors, project engineers, project inspectors, local governments, and the public; recommends solutions to problems, performs technical field reviews to ensure compliance with contract and specifications, and performs final field inspections.

Verifies project data collected in the field for accuracy; determines if submitted data is appropriate for project concept; determines bid items and calculates quantities; estimates project costs to ensure proper funding allocations; selects appropriate road standards, specifications, construction detail sheets, traffic control plans, and general notations.

Attends or conducts pre-construction meetings and provides input to ensure proper policies, procedures, specifications and Materials Office Instructions Memorandums are followed.

Performs general administrative assistance to include maintaining project plans, reviewing construction budget information, reviewing plans, responding to public concerns and complaints about impact of projects, and processing, recording, tracking and distributing as-built plans.

Performs or coordinates traffic engineering studies, analyzes the results and recommends action based on study and analysis.

Trains field personnel in the collection and submittal of contract maintenance project data including proper interpretation of standards, specifications and correct construction methods.

Conducts the Maintenance Quality Survey for 1,200 one-mile test sections on the state's primary and interstate highways; compiles results and prepares and distributes report.

Participates in the development of traffic control for movement of traffic through construction projects, reviews construction project traffic control plans, participates in incident management planning for complex construction projects and assists with resolution of traffic related problems on construction projects.

Develops documentation, budget figures, staffing needs and training plans, goals and accomplishments for management objective reports and/or the maintenance work program; monitors accomplishments as related to targeted goals.

Administers project schedules, manpower requirements, vehicle/equipment/tool inventories, and related office activities, such as contract modifications, bi-weekly vouchers, and project audits within a residency; visits assigned projects to ensure adherence to specifications; and prepares and directs the preparation of periodic and special reports.

Performs daily evaluation and response to employees, department, and public concerns related to construction projects, and risks associated with construction activities, that require knowledge and understanding of broad based perspectives and unpredictable responses; evaluates effectiveness of inspection activities and makes modifications or presents recommendations to superiors.

Administers the contract construction of capital improvement projects including building and allied facilities; conducts pre-construction meetings; recommends modifications in plans and specifications.

Designated positions perform duties related to snow and ice removal, which include: accessing the Roadway Weather Information System (RWIS), weather reports, and other related computers software applications to record and receive data and make decisions regarding times, temperatures, weather conditions, and material usage to operate snow and ice removal equipment such as, but not limited to single or tandem axle dump trucks that may be equipped with tailgate or hopper spreader, straight blades or V-plows, wing plows, and underside ice blades; includes preparing and spreading abrasives and de-icing chemicals on the roadway by using a loader for mixing abrasives and chemicals; may perform other maintenance duties as assigned.

COMPETENCIES REQUIRED

Knowledge of all phases of construction inspection and related laws and regulations.

Knowledge of civil or structural engineering, or architectural techniques, related to planning, design, and development of transportation or capital improvement projects.

Knowledge of basic mathematical principles, algebra, geometry, and trigonometry.

Knowledge of occupational hazards and safety precautions applicable to the work.

Ability to work outdoors in all types of weather conditions, day or night, in normal and emergency situations.

Ability to climb, kneel, crouch, crawl, stoop and twist and perform duties using appropriate tools and equipment within safety standards.

Ability to walk over uneven ground.

Ability to drive vehicles in a safe and conscientious manner.

Ability to read and write English.

Ability to understand, follow and provide verbal and written directions/instructions given in English.

Ability to accurately perform mathematic calculations.

Ability to read and understand engineering or architectural plans and specifications.

Ability to write and interpret concise technical reports.

Ability to draft technical and procedural plans, specifications and contract documents.

Ability to operate computers and/or other electronic devices and use programs/applications to conduct Department of Transportation business.

Ability to develop new methods, policies, procedures, and specifications or revise existing ones.

Ability to establish work priorities and schedules.

Ability to provide necessary consultation regarding critical project issues; including during non-core working hours.

Ability to adjust to change, work pressures, or difficult situations without undue stress.

Ability to work at high volume traffic project sites.

Ability to assimilate and analyze engineering related information such as plans and specifications, cost estimates, etc., and make recommendations concerning assigned engineering problems or projects.

Skill in the use of equipment related to civil/aeronautics engineering projects.

Designated positions will also require the:

Knowledge of effects of weather on road surfaces.

Knowledge of winter maintenance operations, such as anti-icing and de-icing principles.

Ability to occasionally (1-33% of the time) lift/lower, carry and push/pull items weighing up to 75 pounds.

Ability to appropriately use anti-icing or de-icing materials.

Ability to drive equipment with a manual transmission and clutch.

Skill in use of Roadway Weather Information System (RWIS), weather reports and other related computer software applications.

Displays high standards of ethical conduct. Refrains from dishonest behavior.

Works and communicates with all clients and customers providing quality professional service.

Displays a high level of initiative, effort, attention to detail and commitment by completing assignments efficiently with minimal supervision.

Follows policy, cooperates with supervisors and aligns behavior with the goals of the organization.

Fosters and facilitates cooperation, pride, trust, and group identity and team spirit throughout the organization.

Exchanges information with individuals or groups effectively by listening and responding appropriately.

EDUCATION, EXPERIENCE, AND SPECIAL REQUIREMENTS

Graduation from an accredited college or university with an Associate's Degree in Civil Engineering or related field and experience equal to five years of full-time work in engineering survey, construction inspection, materials inspection or materials testing;

OR

any equivalent combination of education and experience substituting qualifying experience for the education on the basis of one year of experience for thirty semester hours of education;

OR

employees with current continuous experience in the state executive branch that includes the experience equal to one year of full-time work as a Construction Technician Senior or four years of full-time work as a Construction Technician.

NECESSARY SPECIAL REQUIREMENTS

Designated positions must possess a valid Commercial Driver's License (CDL) Instruction Permit upon hire. Within 14 calendar days following appointment, a valid Class A Commercial Driver's License must be obtained and maintained with air brake and tanker endorsements in order to continue employment. Other endorsements may also be required.

If a CDL is not required, designated positions are required to have and maintain a minimum of a valid Class C Non-Commercial Operator's License.

In conjunction with Title 49 of the Code of Federal Regulations (parts 40 and 382), designated positions in this job class require a pre-employment drug screen and will require ongoing participation in the employer's random drug and alcohol testing program and will be subject to the regulations regarding the Federal drug and alcohol testing program.

Prior to starting employment, all persons in designated positions are required to have a post offer pre-employment physical verifying the physical ability to perform the duties described.

NOTES

Employees in designated positions must be able to travel and may be required to stay away from home overnight during assignments.

Employees in designated positions must be able to work up to 16 consecutive hours.

Effective Date: 10/13 BR